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ABSTRACT

Since 1980, over 70 studies have explored the causes, responses, and consequences of administrative stress. Few studies have used physiological measures to decipher administrative reactions and consequences of stress. This document briefly traces the historical development of stress and reviews various approaches, models, and definitions used in studying stress. In an effort to integrate the various approaches to the study of stress and utilize the salient features of existing stress models, a Managerial Stress Cycle is described. Four stages of this cycle include: (1) demands or stressors; (2) perception of stressors; (3) response to perceived stressors; and (4) consequences of responses. Each stage in the cycle is moderated by a secondary filter composed of a person's personality, predisposition, and demographic considerations. The Managerial Stress Cycle attempts to provide a broad perspective from which to view stress in schools. According to the definition of stress consistent with this new stress cycle, a particular stressor can be negative or positive, depending on the manager's perception. Six models of stress are appended. (38 references) (LAP)

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A Conceptual Understanding of Administrative Stress

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Introduction

Stress intrigues and plagues the practitioner and researcher alike. Internationally, scholars and professionals have authored over 100,000 books, journals, and articles dedicated to the phenomena of stress, with an additional 6,000 publications catalogued each year. Only within the past two decades have we seen the exponential proliferation of articles written about the stress in schools (6,843 citations in educational journals and documents alone) and over 1300 articles on school administrator stress since 1966 (Gmelch, 1988 b). While early writing tended to be anecdotal in nature with little substantive connection to empirical evidence, the past ten years have seen refined interest from researchers.

Over 70 studies since 1980 have explored the causes, responses, and consequences of administrative stress. Methodologically, the vast majority of studies represent survey, correlational investigations designed to explore the stressors (demands) of school managers. Fewer studies have used physiological measures to decipher administrative reactions and consequences of stress. Interestingly, only ten percent of the studies have linked empirical research to the coping process.

This paper will trace briefly the historical development of stress then review the various approaches, models and definitions currently confusing the field of study. At the conclusion a Managerial Stress Cycle and operational definition will be proposed (1) to provide clarity to this confusion, (2) to organize the research and literature, and (3) to give order and a theoretical framework to the entire book.

The Concept of Stress

The word stress is familiar to the professional and scholar alike. Typically they associate stress with anxiety, frustration, strain, conflict and tension; or in terms of pressure situations, "up-tight" feelings, nervousness, or other unpleasant demands. While children, teachers, administrators, and researchers recognize the feeling of stress, the exact understanding of the concept remains vague.

Generally stress has been distinguished by three basic orientations: systemic or physiological (e.g., Cannon, 1939; Selye, 1974), psychological (e.g., Lazarus, 1966; McGrath, 1976), and social (e.g., Levine and Scotch, 1970). While the three concepts are related, as will be explained later in this chapter, what is most surprising and confusing is the lack of

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concensus by the researchers on the concept and definition of stress (Monat and Lazarus, 1977). As a result some suggest abandoning the term stress (Mason, 1975) while others propose broadening the word to encompass an interdisciplinary area of inquiry. "It seems wise to use 'stress' as a generic term for the whole area of problems that includes the stimuli producing stress reactions, the reactions themselves, and the various intervening processes. Thus, we can speak of the field of stress, and mean the physiological, sociological, and psychological phenomena and their respective concepts" (Lazarus, 1966, p. 27).

Thus, in this paper we subscribe to and promote the concept of stress as not a stimulus, response, or moderating and intervening variables but a collective concept used as an area of inquiry.

Common Myths About Stress

To help clarify some of the misconceptions and misuses which have engulfed the concept of stress over the past few decades, attention will now be focused on exploring some of the myths plaguing the understanding and study of stress.

1. Stress is harmful. While the popular connotation is that stress is unpleasant or negative, it can be positive as well. The Chinese, for example, represent stress with two characters, one signalling danger and the other opportunity. Like the Chinese representation, stress today actually encompasses both distress (bad or unpleasant events) and eustress (good or pleasant events). Through slurring, the old French and Middle English word distress' came into common English usage as stress, with its sole negative connotation in the Western world. Failure is stressful, but so is success.

2. Stress should be avoided. Stress is a natural part of life and helps individuals respond to a threat or rise to a challenge. In essence, it cannot and should not be avoided, for without stress we could not live. When one is "under stress" what is actually meant is that he or she is under "excessive" stress or distress. An analogous statement would be that someone is "running a temperature," meaning that it is above normal (Selye, 1984). Body temperature itself is essential to life just as stress is. There is no way of avoiding stress, other than death. Therefore, stress is not something to be avoided; it can be the spice of life, if handled right.

3. Executives experience the most stress. Results are mixed about who within the managerial ranks suffers from the most stress. The popular

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belief that high-level executives lead the list of heart disease patients was challenged by a Metropolitan Life Insurance Company study, which found that presidents and vice-presidents of the 500 largest industrial corporations suffered 40 percent fewer heart attack deaths than middle managers of the same companies. Similar data support the conclusion that middle managers have a higher peptic ulcer rate than chief executive officers.

4. Air traffic controllers are the most stressful professionals. Probably the most studied occupation, air traffic controllers, experience high levels of stress for long periods of intense concentration making life-protecting decisions. Incidences of alcoholism, ulcer, divorce, high blood pressure, and suicide are higher for air traffic controllers than most professionals. However, the National Institute for Occupational Safety and Health conducted a study which reported the five most stressful occupations as laborer, secretary, inspector, clinical lab technician and office manager. Nevertheless, researchers are not always certain what makes particular as secretaries and managers, stressful. The path to discover the most stressful occupation may not lead to meaningful conclusions since environmental and personal characteristics transact to produce unpredictable results. The most beneficial argument might center best around the fit between the person and the job (see Person-Environment Fit). For example, University of Michigan researchers have generally concluded that jobs are particularly stressful when employees do not have clear objectives, are torn between conflicting demands, have limited control over decisions affecting them, have too much or too little to do, or are responsible for other people's professional development and careers (Caplan, et al., 1980). Another conclusion about occupational stress comes from a NASA study which revealed that people responsible for managing others have higher stress (measured by higher blood pressure and nervous habits like smoking) than those responsible for things. Keeping these conclusions in mind it appears one can generalize about stressful occupational characteristics but not specific occupations.

5. Stress is a male-dominated phenomena. Until the 1980's the literature abounded with reference to "men under stress." The male pronoun was used whenever reference was made to the stress victim. While this myth or misguided reference no longer prevails, it is a well-known fact that men suffer higher rates of alcoholism, ulcers, lung cancer, suicide, and heart disease than women. Women live nearly eight years longer than white men, fourteen years longer than black men; black women live longer than black men. However, as the number of women in managerial positions increases, so do the incidences of stress and stress-

related diseases. Even though the facts indicate that women will share equally in "executive" stress diseases, it has been noted that women physiologically and psychologically tend to have a higher endurance for stress. A study of school administrators found that women managers reported less stress than their male counterparts in all but one area: task-based stress (Tung, 1980). Overall, the evidence that either men or women experience more stress is inconclusive and does not prove to be a productive or functional line of inquiry for applied research.

6. There is one right way to cope with stress. While the general literature on coping is significant in volume and diverse in attention, identification of the effective coping process is equally elusive. The research addresses popular and academic concerns as well as conceptualized, theoretical, and empirical investigations. Given the recent interest in teacher, administrator and student stress, it is surprising to find little attention in education literature on the precise ways educators cope with stress. Hans Selye, pointed out that despite everything that has been written and said about stress and coping there is no ready-made formula that will suit everyone (1974).

Approaches to the Study of Stress

The next section will explore the approaches to the study of stress, followed by the final section which outlines models and definitions to lay the foundation and framework for the inquiry into stress in school leadership. Ivancevich and Matteson (1980) suggest that stress has been approached from two distinct perspectives and fields of study: medical and behavioral.

The Medical Approach

The medical approach views stress as a disruption to the body's balance and equilibrium. This imbalance results in a variety of biological and psychological illnesses. Hence, the medical doctor's challenge is to diagnose the causes of such illness conditions in order to provide the proper prescription.

Two limitations emanate from this approach. First, since the Middle Ages the diagnosis and treatment of human beings has been divided into separate and distinct aspects of the body and mind. Medical doctors treat the body and search for physiological answers for one's welfare. Psychiatrists and psychologists in tern have explored the behavioral dimensions of stress and illness. This differentiated approach still

purvades the healing professions and research perspectives. While other societies have approached healing more wholistically, Western cultures research agendas are still dominated by specialized and separate explorations of the body and mind.

Although many types of doctors treat patients with stress problems, proponents of psychosomatic medicine dominate the inquiries relative to stress. In the traditional sense, psychosomatic researchers still observe a disorder as unfounded due to "the absence of clearly diagnosed organic pathology" (Pelletier, 1977, p. 12), therefore rendering the ailment as imaginary or nonexistent.

Second, while stress is generally accepted by medical researchers as a link in illness, the medical approach still suffers from the limited diagnostic medical sequence of:

Specified Stress----Reaction of------Structural Change
Person

(Ivancevich and Matteson, 1980)

To date the stress literature in the medical field is still characterized by unanswered questions, incomplete data, and prolonged debates. Since the pure medical approach to stress cannot provide a common understanding of stress, it should be combined with other perspectives to provide an integrated approach.

The Behavioral Science Approach

The second approach to stress rests in the behavioral science field. Generally, the field of organizational behavior or behavioral science has contributed significantly in the past few decades in management-related issues of conflict, motivation, group dynamics, problem solving, decision making, change and leadership. Stress itself entered the management literature in the 1960's and has a place of prominence in educational administration discipline since the late 1970's.

As managers attempt to do more with less, the maximization of all resources, particularly human, becomes critical. Stress plays a major role in the productivity of individuals through performance and health-related issues. The behavioral approach reestablishes the emphasis on the patient (manager) rather than upon the medical technology.

However, the exact role remains confused due to the lack of precision in specifying on the definition and determinants of job-related stress. Research on psychological stress is more complex and confounding than physical stress inquiry. A larger number of variables enter into the equation which are less well identified and defined. Even the word stress itself is plagued with frequently used synonyms such as tension, anxiety, frustration, and arousal. If more precision was given to the terms, the behavioral approach still lacks a conceptual framework to ground a theory and its variables. The lines of inquiry continue to become more blurred by the number of separate social, anthropological, psychological, and organizational disciplinary approaches. As Caplan and his colleagues at the University of Michigan's Institute for Social Research conclude, the literature on stress displays "widespread confusion and disagreement about the types of variables which should be studied, how they should be defined, and the theoretical models for relating them (Caplan, et al. 1980, p. 3)

An Integrated Approach

Neither the pure forms of medical nor behavioral approaches to the study of stress seem to sufficiently explain or guide the research on stress. One common misconception of both of these orientations, as in the separate approaches to healing by body or mind, is the disassociation of behavioral and medical as discrete lines of inquiry. As the practice of wholistic medicine recognizes the inseparable and synergistic interaction between the person and psychosocial environment, the approach to the study of stress should combine the medical and behavioral approaches.

The new field of "behavioral medicine" bridges the communication gap between the medical and behavioral scientists (Ivancevich and Matteson, 1980). The techniques of physiology, biochemistry, cardiology, psychology, psychiatry, epidemiology, sociology and anthropology all need to focus on stress and work relationships and apply their collective knowledge and techniques to prevention, diagnosis, treatment and rehabilitation (Schwartz and Weiss, 1978). The approach is not competition among disciplines but collaboration focussed to the end of integration. Separately neither the disease orientation of the medical approach nor the psychiatric underpinnings of the behavioral approach provides guidance to managers on the problematic issues of stress and employee productivity.

While an integrative approach provides the foundation for critical inquiry, the essential ingredients for the study and application of stress

research is based upon a sound theory and consistent definition. Before this paper proceeds further, an exploration for a common theory and definition of stress must be undertaken. With a common understanding both the researcher and practitioner (1) will be able to focus on salient elements of stress; (2) will have a way to explain observations and discoveries; (3) will be able to interpret the findings to make practical managerial applications; and (4) in the future, will be able to sort, evaluate, and select the critical information from the proliferation of materials published daily in the name of stress.

Since confusion abounds in the area of stress due to multiple definitions and inconsistent theories, the goal of this section is to provide clarity to the confusion and order from the chaos of stress models, definitions, frameworks, constructs, paradigms, and theories. The result will be a synthesis of the theories into a comprehensive model and coupled with a consistent operational definition applicable to the study and practice of educational management.

Stress Definitions and Theories

Theorists, researchers, practitioners and experts alike cannot agree on a common theory or precise definition of stress. Much like the study of "leadership", stress has been evasive to both the practitioner and theorist. In fact the evolution of the operative definition of stress resembles the search for truth in leadership which in the early years investigated the two polar concepts of scientific "task" management (Taylor, 1911) and human relations "people" management (Mayo, 1945). Later the two separate movements were combined into a continuous showing concern for both task and people (Halpin, 1959). While still a static and simplistic approach, this eventually did lead to the currently accepted "continency" approach to leadership which reflects the complexity of the interaction among the leader, followers and specific situations (Fiedler, 1967; Vroom, 1976).

In much the same fashion the main approaches to the theory of stress have evolved from polar definitions of stress as a stimulus or response followed by an amalgamation of both into a stimulus-response transactional model. Although a wide variety of definitions can be found in the literature (eg Selye, 1974 Lazarus, 1966; Appley and Turnbell, 1967; Levine and Scotch, 1970; McGrath, 1976; Cox, 1978; Gmelch, 1982; Schuler, 1984), most can be categorized into the stimulus, response or transactional models (Cox, 1978). A brief review of each definitional

model will provide the basis for proposing a theoretical construct for this paper and the study of stress in schools.

Response-Based Model of Stress

As noted in Figure 1.1, stress in the response-based model acts as a dependent variable--a response to a demand or stressor created in the environment. Hans Selye (1956) provided the initial impetus to this view of stress. He postulated that the body's response to a demand is nonspecific; that is, when a demand is placed on the individual an alarm signals all organs of the body, without discrimination, producing a biochemical reaction.

Generally, three basic tenets guide Selye's theory:

(1) the physiological response to the demand does not depend on the nature of the stressor, i.e. the response is nonspecific;

(2) the defense response progresses through three stages of first an alarm, then resistance, and finally exhaustion (See General Adaptation Syndrome, Selye, 1974); and

(3) prolonged or enduring responses to stressors result in diseases of adaptation.

While Selye's works remain influential among researchers in the field of stress, his tenets may have been overstated. For example, some stressors such as exercise, fasting and heat do not produce the General Adaptation System. Also Selye primarily emphasized the physiological reaction which under stimulates the impact the mind has on physiological response.

Today, most researchers view the physiologically dominated response-based definition as inadequate and call for investigations recognizing the interrelationship of behavioral, physiological and subjective response areas (Whan, 1988). Therefore application of this definitial model to the applied world of education is limited and not useful by itself.

Stimulus-Based Model of Stress

In contrast to the dependent role of stress in the response model, in the stimulus-based model stress acts as an independent variable, or stimulus which influences the individual, creating a disruptive strain. This model, depicted in Figure 1.2, has its origin in the field of engineering. For instance, the stress or external force placed on an object such as the wind's stress on the wing of a plane, causes an impact or strain on the metal. To carry this analogy further, according to Hooke's Law of Elasticity, if the force is within the elastic limits of the metal, once the force of the wind has subsided the plane will be unharmed. However, if the force pushes beyond the elastic limits then a "stress" facture may result. In a managerial setting, the ringing of a telephone may cause a strain on the individual until the call is answered. However the cumulative-inelastic effect of constant telephone calls may cause a strain on the manager such that a "stress" headache results.

However, the engineering model does provide some difficulties in the managerial example. First, while in engineering the same force creates identical strain on similar objects, two individuals may react differently to the same force. For example, one manager may thrive on change while another may avoid it entirely. Second, for an event or force to be humanly stressful it must be "perceived" by the individual. A machine or plane does not recognize the stress placed upon it whereas a manager must perceive the stimulus in order for it to be stressful. In essence, perception becomes an intervening psychological variable mediating between the stimulus and response. Third, given that stress creates strain, one would assume that the most optimum state would be where no stress exists. In a motivational sense, however, employees unchallenged or bored cause more concern for managers than being over stimulated.

Stimulus-Response Stress Model

Due to the previous shortcomings, the stimulus-response model portrayed in Figure 1.3 interjects the intervening variable of personal interaction with the stimulus and idiosyncratic influence on the response. Such a model calls attention to the critical influence of personal differences in the total equation of stress. However in the final evaluation, while this view is more complex than the previous two models, it too suffers from relative simplicity. At this point we will explore a synergetic model of stress which encompasses the concerns of

the behavioral-medical "integrated" approach as well as the need for more explanation of the "transactional" nature of the individual's interaction with both stimulus and response.

A Transactional-Integrative Model of Stress

In order to compensate for the fragmented approaches and incomplete models, this section will draw upon the salient features of both to arrive at a transactional-integrative model of stress. First, the model must be integrative since we have previously shown that neither the behavioral nor medical approach separately provides the most explanatory approach to stress. The stress literature and research eminates from several diverse areas and because of the limited point of view of each, no single discipline holds the answer.

Second, the study of stress also requires a transactional model to address adequately the limitations of the stimulus and response based models. Transaction implies that the relationship between variables is reciprocal rather than linear. Figures 1.1 through 1.3 reflected a linear relationship and thus proved inadequate to guide managerial stress research and application. However, the components of environment, individual, stimulus and response in these figures do represent key concepts in the stress equation. Lazarus (1986) contends that it is important to treat stress components as multidirectional so they can be viewed in terms of either cause or effect.

The basic properties of a transactional model are: (1) no component of the model is independent of the other components of the model, or of the model as a whole; (2) all components of the model have a constant reciprocal relationship such that one component does not simple act on another component; and (3) action in any component of the model has consequences for other components of the model (Benner, 1984, p. 4). Therefore the environment and individual, investigated separately, are never the same when considered relative to each other in a transactional model. Coping, for example, cannot be viewed as an isolated response to a specific stimulus in the environment.

The primary purposes of the development of a valid model of managerial stress is based on three premises of research: prediction, comprehension and application. Is the model able to predict the outcomes of the stress process? Does the model provide a plausible understanding or comprehension of the interaction between the variables? And finally, does the model allow for the application of corrective action to the world

of work? More specifically, a model addressing the issues and concerns of managers and researchers should fulfill the following goals:

1. Improve managerial understanding of stress and work relationships.

2. Use terminology and concepts that make sense from a managerial perspective.

3. Appeal to managers in general and not a specific or small group of managers.

4. Not be viewed as the complete or final solution to issues concerning stress and work.

5. Integrate medical and behavioral science variables that are relevant to managers.

6. Suggest courses of action that managers can take to counter stress in (staff) and in themselves.

7. Offer suggestions for testing and research on stress and work variables.

8. Incorporate individual, group, and organizational as well as extraorganizational variables that are potentially related to organizational outcome variables (Ivancevich and Matteson, 1980, p. 31).

After reviewing the literature and applying these goals to evaluate existing stress models, Ivancevich and Matteson concluded that no single model meets these criteria. Figure 1.4 summarizes the historical developments of (1) the medical and behavioral approaches, (2) the stimulus and response definitional models, and (3) the subsequent need for an integrative and transactional model of stress. While it is not our intention merely to create yet another model of stress, for the purposes of our research and application to managerial practices the previous theoretical work will form the building blocks for the foundation of our integrated-transactional managerial stress model.

A number of models have emerged since the 1970's which recognize the need for transactional explanation of components of stress. Many of the components identified are similar and provide the cornerstones for our

managerial stress model. McGrath (1976) first explained stress as a four stage, closed-loop process beginning with situations in the environment (A), which are then perceived by the individual (B), to which the individual selects a response (C), resulting in consequences for both the individual--and the situation, which closes the loop. Each of the four stages is connected by the linking processes of cognitive appraisal, decision, performance, and outcome, as depicted in Figure 1.5.

Most other models represent hybrids, elaborations, or extensions of the McGrath model. Cox (1978), for example, enumerates five recognizable stages. The first four (sources of demand, perceived demand and capability, response to stress, and consequences of responses) closely proximate McGrath's stages; and the last stage, feedback, resembles the closed-loop character of McGrath's model. Schuler (1984) proposes an integrative-transactional process model of stress which is more elaborate than McGrath's, but still focuses on the four primary components of environmental stressors, individual perception, stress, and individual responses. Ivancevich and Matteson's (1980)model for organizational stress research is built on a similar set of four stages: antecedents (stressors), perceived stress, physiological and behavior outcomes, and consequences (1980). They have basically extended McGrath's model to compensate for two shortcomings: (1) no integration of medical and behavioral variables and (2) individualistic focus ignoring group factors that influence the various processes. Finally, the education-based Teacher Stress Model developed by Kyriacou and Sutcliffe (1978) combines both the transactional and physiological considerations and results in a complimentary model which identifies stress response as "the perception that there is an imbalance or discrepancy between the demands made upon the individual and the individual's ability to meet or cope with these demands, where failure has important consequences for the individual" (p. 2).

In conclusion, the four stages postulated by McGrath have served as sound building blocks for the development of stress models. Each subsequent model appears to have been personalized with appropriate feedback loops, moderator variables, and process variables embellishing the relationship between the four basic stages in a manner to meet the research and application needs of each investigator. In a like manner, our Managerial Stress Cycle has been built on McGrath`s foundation and elaborated with intervening variables and processes which serve the purposes and goals of the study of managerial stress.

The Managerial Stress Cycle

In order to integrate the various approaches to the study of stress and utilize the salient features of existing stress models, a Managerial Stress Cycle was developed. This Cycle, presented in Figure I.6, provides a broader perspective and clearer understanding of the stress process from a managerial perspective. More importantly it adheres to the basic premises of research by being able to predict, comprehend and apply the key concepts of stress as well as fulfill the previously outlined eight goals of a theoretical model.

The Managerial Stress Cycle includes four primary components, or stages, and secondary filters which effect the relationship between each stage. The stages are set in sequential order and reflect direct causal effect such that the variables in the first stage are hypothesized to be a direct cause of the variables in the second stage, and so forth. For example, the objective stressors in the organizational environment impact the perception of stress in the second stage.

The filters on the other hand represent moderating or conditioning variables which intervene between the stages and moderate the effect. The degree to which an individual perceives stress from the external environment is influenced by a person's disposition and background characteristics. Each of the stages and the filter system is examined briefly below and will be elaborated more completely in the subsequent chapters.

Stage 1: Demands or Stressors

The Cycle begins with a set of demands or stressors which are both internal and external to the manager's work environment. The variables identified within this stage in Figure I.6 are not exhaustive but illustrative of what we know from theoretical and empirical studies. For example, McGrath theorized about the multidimensionality of occupational stress when he postulated six categories: (I) task-based stress, (2) role-based stress, (3) stress intrinsic to the behavioral setting, (4) stress arising from the physical setting, (5) stress arising from the social environment, and (6) stress within the person system (1976, p. 1369). From an empirical basis Gmelch and Swent (I984) studied 1200 principals and superintendents and discovered four factors of administrative stress: (I) task-based, (2) role-based, (3) conflict-mediating, and (4) boundary-spanning. The first three approximate what many have theorized as

general dimensions of stress (Kahn et al., 1964; McGrath, 1976), but the last, boundary-spanning, appears to be unique to the field of school management.

Due to the multidimensionality and occupational uniqueness of stressors it would be inaccurate to represent one list of stressors in Figure I.6 as generic of occupational stress. Each profession should be recognized for its unique demands and reflect its own multidimensionality in the stress construct. Since internal occupational stress is not independent but synergistic with other spheres of a manager's life, it is also important to recognize the external stressors represented by family, community, and physical environment.

Stage 2: Perception of Stressors

Whether a demand or stressor produces a stress reaction depends on the perception of the individual, Stage 2 of the Managerial Stress Cycle. This stage was missing in the previous stimulus-response models and unexplained in the medical and behavioral approaches which explored causal relationships between stressors and consequences. Stressors represent the objective environment and the prevention of the stressors is what Kurt Lewin calls the "subjective" environment. According to Lazarus and DeLongis (1983) individuals appraise situations based on the degree to which they believe they will be harmed, threatened, or challenged. High perceivers of stress respond to a situation as a threat rather than challenge. For example, does the administrator have the time or resources to meet the demand adequately? If he or she perceives a confrontation with a student as not demanding excessive time or resources, stress will not ensue. On the other hand, if another administrator perceives the same confrontation as demanding resources of which he or she has little, a discrepancy exists creating stress. Therefore the same situation may be perceived as a stressor by one educator and not another.

Stage 3: Response to Perceived Stressor

A stress response, Stage 3, results if a stressor is perceived as harmful, threatening or challenging. Individuals' physiological and psychological responses are not end products of the stress process but methods of mediating the stressor prior to the consequences. Physiologically, an alarm is sent out without discrimination (nonspecific)

to all organs of the body producing a biochemical chain reaction. In such a reaction the brain organizes the body for its response to stress by stimulating the hypothalamus, which adjusts the blood supply and relaxes the stomach, bladder, and intestines. The adrenal secretion monitors the liver, pancreas, spleen, and large blood vessels and builds up the supply of fuel while the thyroid gland increases energy production. This internal biochemical response translates into what experimental psychologists call an orientation response. The typical orientation response to such stress situations as public speaking might manifest itself into bodily reactions as dilation of the pupils, increased heart rate, dry mouth, sweating palms, increased muscle tone, acute hearing, and changes in breathing patterns. Only recently have a few researchers studied school administrators physiological reactions to stress (Phillipps and Thomas, 1983; Cooper, Sieverding,and Muth, 1988; Whan, 1988).

These and other physiological changes prepare people for action and are, in essence, nature's gift for stress adaptation. Cannon (1939) termed this process as preparing the body for "fight" or "flight." While it sensitizes individuals to receive more information, it can also create a rise in cholesterol, increased blood pressure, or excessive glandular secretion. Stage four addresses the physical consequences from frequent and prolonged stress reactions.

While the physiological response is much the same for everyone, the psychological and behavioral reaction is an idiosyncratic or personal matter. Theorists postulate that psychological responses to stress can be categorized into four modes: (1) information seeking, (2) direct action, (3) inhibition of action, and (4) intrapsychic processes (Lazarus and Launier, 1978). As a practicing administrator, these theorized modes are not as helpful as specific coping categories or techniques empirically derived. For example, a study of over two thousand coping responses of school administrators resulted in the identification of seven coping categories: social, physical, intellectual, entertainment, personal, managerial and attitudinal (Gmelch, 1988). The answer to personal and organizational stress problems therefore will not rest singularly with any one of these coping categories but with a repertoire of responses and coping strategies:. "coping is not a single act but a a constellation of may acts. . ." (Lazarus, 1981 p. 202).

Stage 4: Consequences of Responses

The fourth stage, consequences, differs from responses because it takes into account the long-range effects of stress, both due to its

duration and intensity. If one is not able to alleviate some of the stressors or cope adequately, consequences may arise in the form of serious mental or physical illnesses. With some illnesses the relationship between stress and actual physical symptoms is clear, while with others the association is often only suspect or unproven. Even if researchers were able to measure the degree of stress perceived, the same degree of stress may produce different problems in different individuals. As Selye (1974) points out, the weakest link in the body breaks down first. A person's weakest link is idiosyncratic and may be determined through hereditary predispositions for heart disease, cancer, headaches or depression. Therefore each person has a different threshold to seemingly similar stressful situations. Some, by nature, will survive stress longer. Others have a low stress threshold and may succumb sooner.

Secondary Filters of the Stress Cycle

Each stage of the stress cycle is moderated by a filter which effects the influence and interaction between stages. Much like looking at the world through special glasses, imagine individuals using a polarizing filter to cut back bothersome glare; cool-green to temper the heat; and red-hot to accentuate the important. The filter is composed of two moderating influences, the individual's personality or predisposition and demographic considerations such as cultural heritage and personal history. Kyriacou and Sutcliffe (1978) for example, suggest that teachers' perception of demands may be dependent upon a person's personality traits, values, attitudes, and beliefs as well as gender, age, and hereditary factors. Although it is difficult to establish clear causal links between personality factors and disease, sufficient research evidence exists to document the link between certain types of behaviors and heart disease, cancer, arthritis, asthma, and migraine headaches (Morse and Furst, 1979).

The Managerial Stress Cycle also results in organizational consequences. Recent figure from the U.S. National Clearing House for Mental Health Information indicated a $17 billion decrease in the productive capacity of workers resulting from stress: excessive absenteeism, $5.5 billion; excessive unemployment, $2.7 billion; inefficiency on the job, $1.9 billion; and below capacity employment, $1.9 billion. These figures alone only represent the cost of stress-induced mental dysfunction; as yet no accurate account of dollars and human capacity lost from psychosomatic and physical ailments are available.

Definition of Stress

Because of multiple uses, references, models and definitions, the exact meaning of the term stress remains ambiguous. The Managerial Stress Cycle attempted to bring clarity from this confusion and provide a broad perspective from which to view stress in schools, no matter what the location, context or culture. Stress is universal. The final requirement of this chapter before undertaking a comprehensive review of the literature is to provide an operative definition consistent with the theoretical model we have developed. Since perception is the key to whether stress is received or denied at Stage 2 of the Managerial Stress Cycle, the following psychological-based definition has guided our research and review of the literature.

> The anticipation of one's inability to respond adequately to a perceived demand, accompanied by one's anticipation of negative consequences for an inadequate response (Gmelch, 1982, p. 84).

An analysis of this definition, word by word, provides insight into the subtle meanings and its consistency with the Managerial Stress Cycle. "The anticipation (which could be real or imaginary) of one's inability (the feeling that the skills are not available) to respond (Stage 3 of the stress cycle) adequately to a perceived (Stage 2) demand (Stage 1), accompanied by one's anticipation of negative consequences (Stage 4) for an inadequate response."

Note that the connotation of this definition is perceived distress or negative stress resulting from harm or threats. However, stress can be positive and result from challenge. Therefore this definition of negative stress can be transformed into a positive statement by viewing the potential stressor as a challenge. Stress is then defined as:

> The anticipation of one's ability to respond adequately to a perceived demand: accompanied by our anticipation of a positive consequence for an adequate response.

Thus, the psychological base of this definition plays a major role in the resilience to, or acceptance of managerial stress as well as the positive or negative character of stress itself. Stress does not necessarily result in illness but can produce the positive consequences of health and wellness. It is to this end that we dedicate our research efforts and the publication of this article.

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Figure 1.1
Response Model of Stress

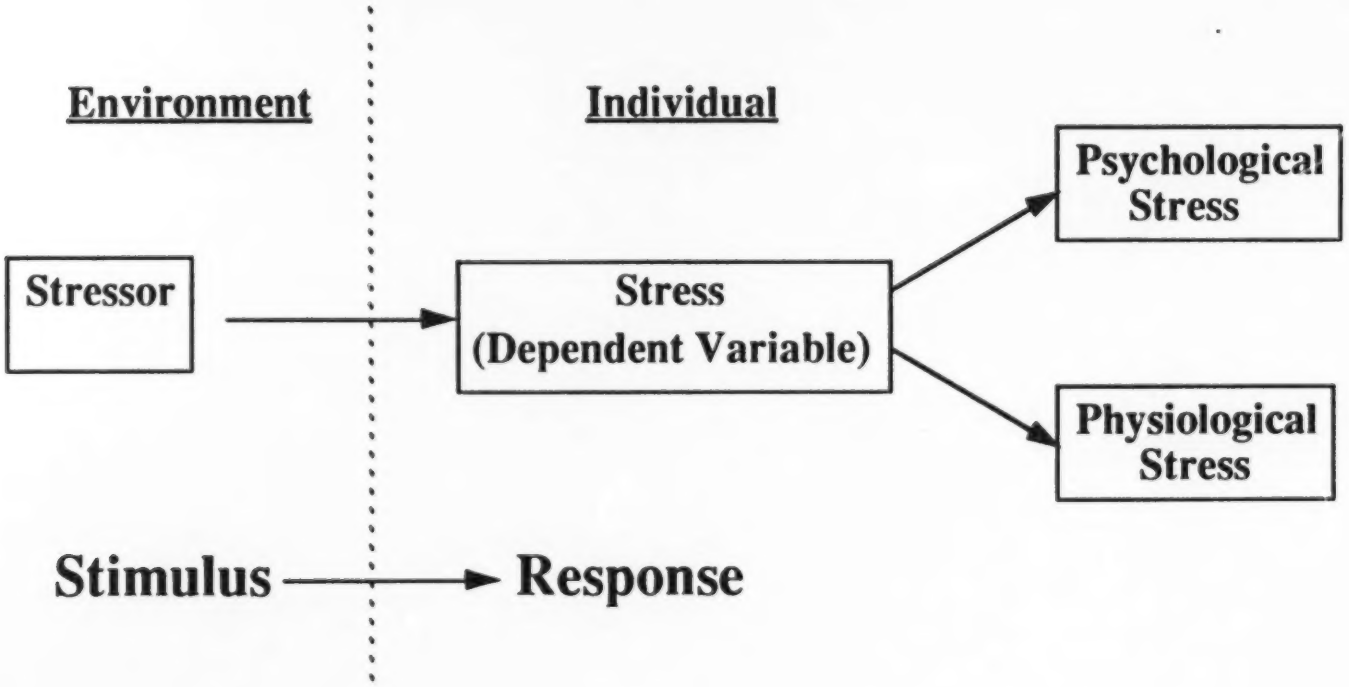


Figure 1.2
Stimulus Model of Stress

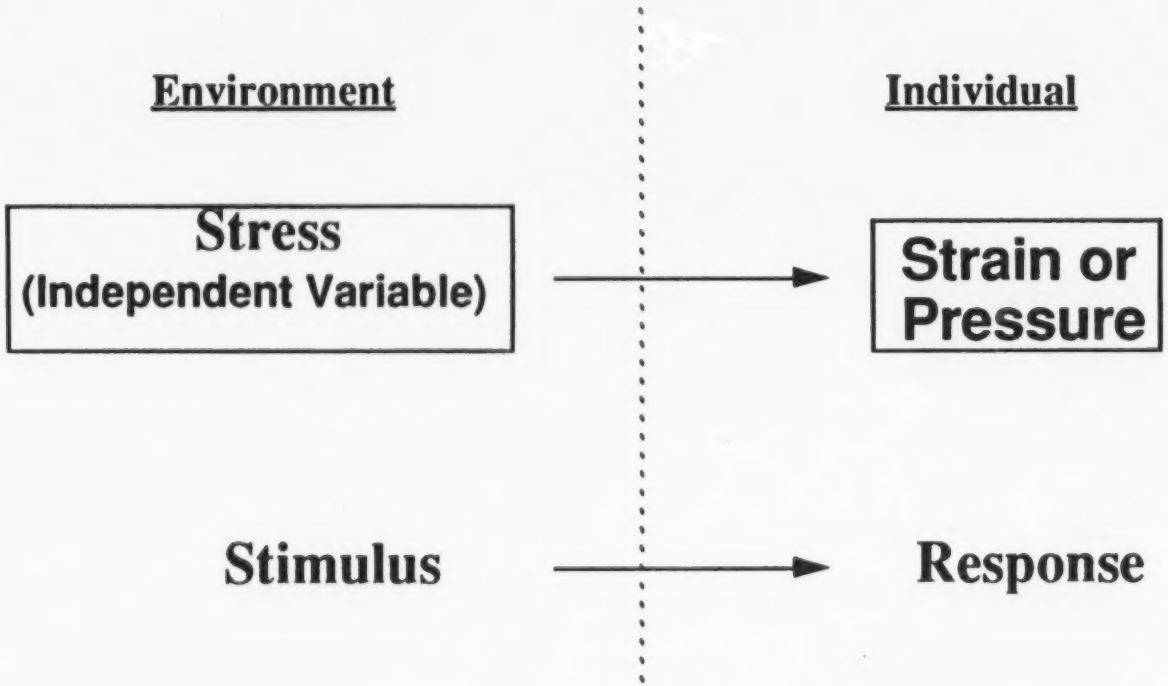
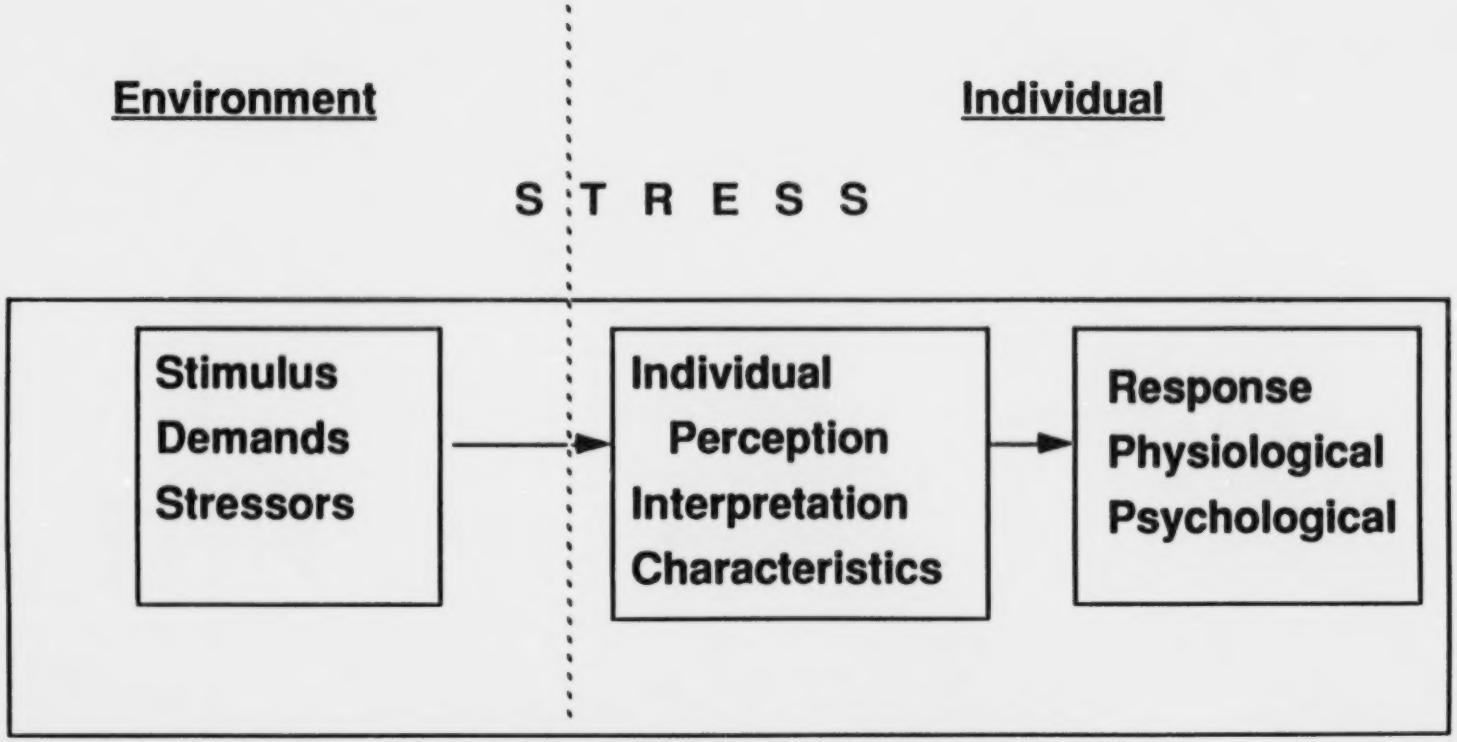


Figure 1.3
Stimulus Response Model of Stress



* Adapted from Ivancevich and Matteson, 1980, p. 8.

Figure 1.4
Development of Integrative-Transactional Model

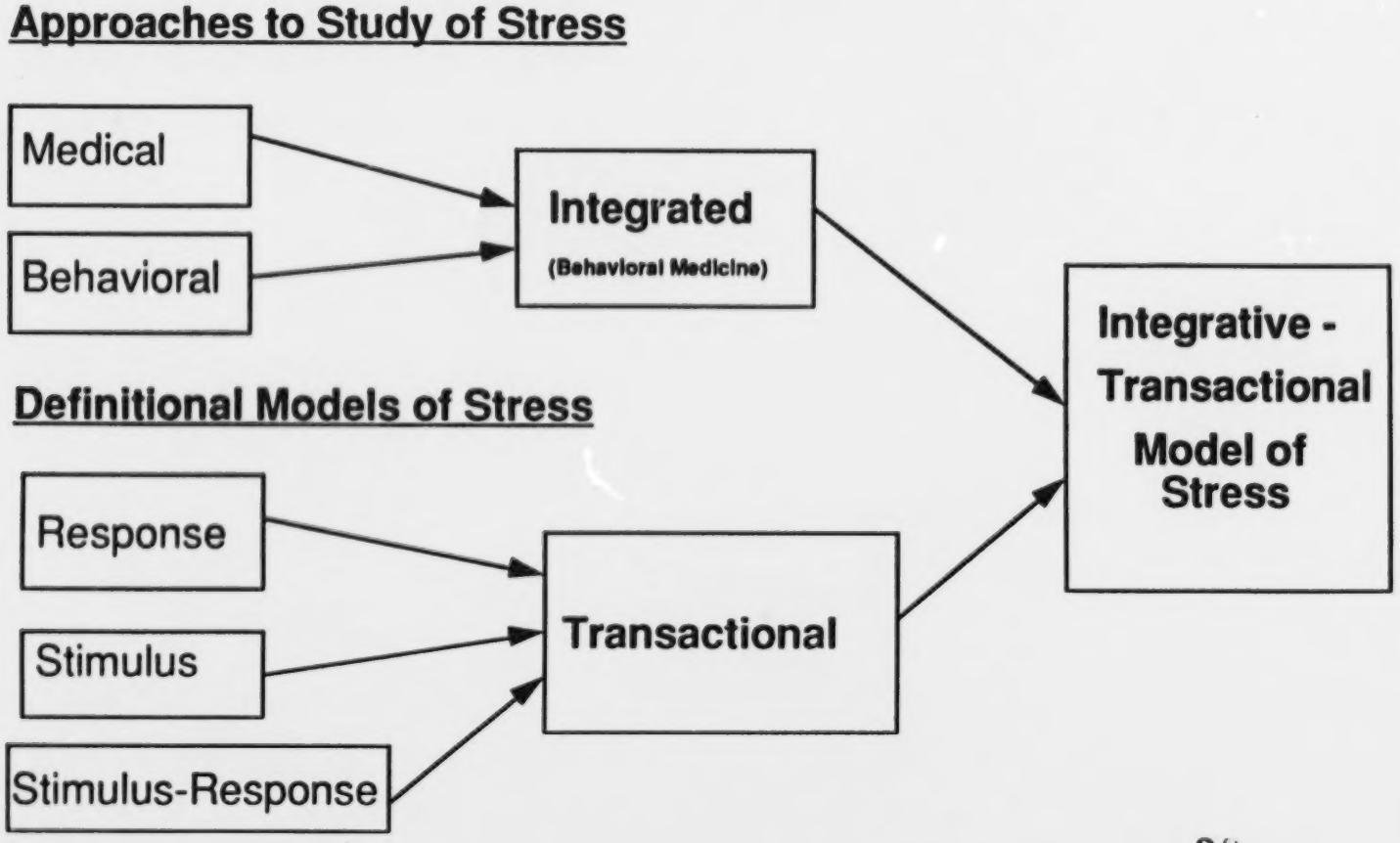


Figure 1.5
McGrath's Paradigm for Analysis of Stress Cycle

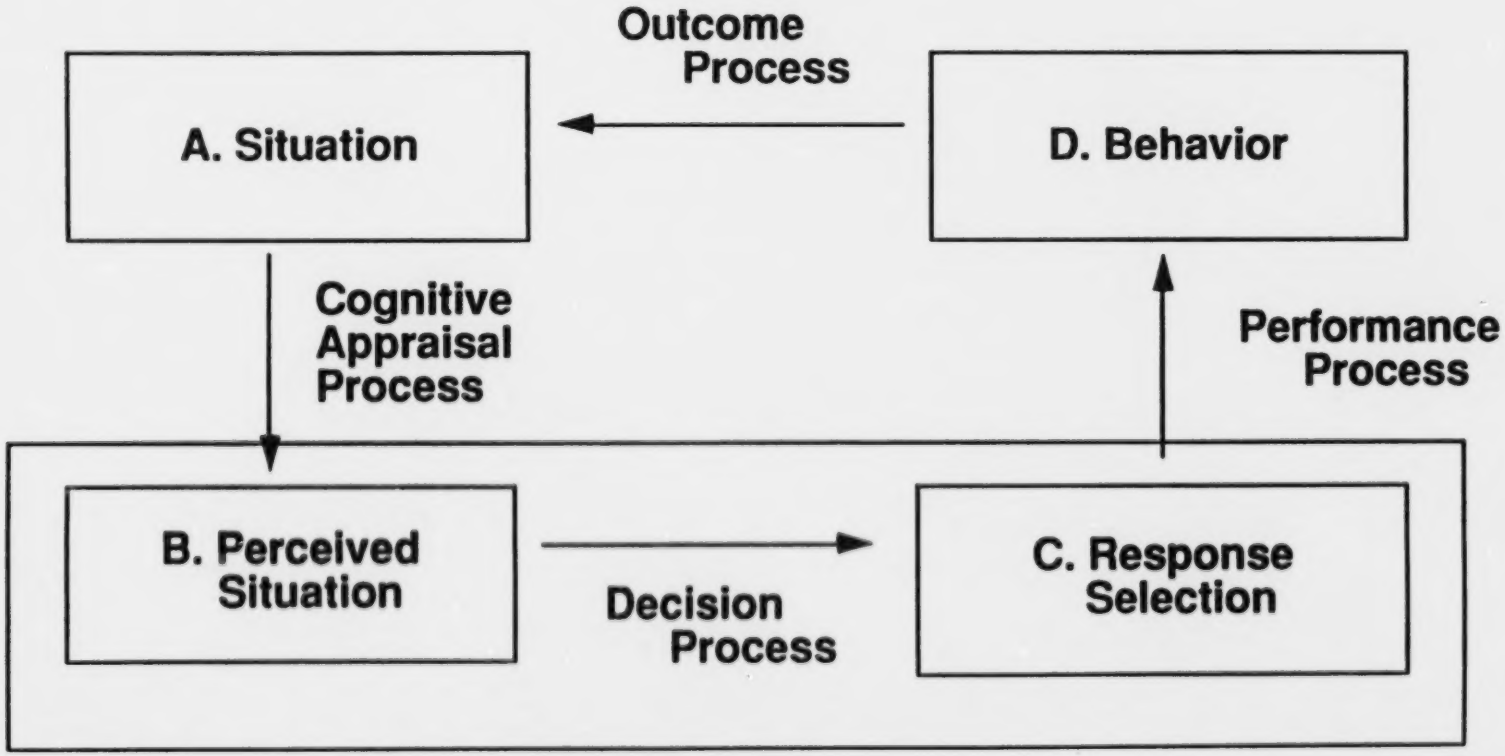


Figure 1.6
Managerial Stress Cycle